What is claimed is:

1. A magnetoresistive head, comprising:

a spin-valve film as a magnetic sensor element for detecting magnetic signals while in contact with a magnetic recording medium, said spin-valve film having a structure in which an anti-ferromagnetic layer, a pinned layer in which the direction of magnetization is pinned in a predetermined direction by an exchange-coupling magnetic field at work between itself and said anti-ferromagnetic layer, a free layer in which the direction of magnetization changes in accordance with an external magnetic field, and a non-magnetic layer for magnetically isolating said pinned layer and said free layer are layered, wherein

said spin-valve film has a corrosion potential relative to a standard hydrogen electrode of +0.4. [V vs. SHE] or greater when immersed in a NaCl solution of a concentration of 0.1 mol/L.

2. A magnetoresistive head, comprising:

a spin-valve film as a magnetic sensor element for detecting magnetic signals while in contact with a magnetic recording medium, said spin-valve film having a structure in which an anti-ferromagnetic layer, a pinned layer in which the direction of magnetization is pinned in a predetermined direction by an exchange-coupling magnetic field at work between itself and said anti-ferromagnetic layer, a free layer in which the direction of magnetization changes in accordance with an external magnetic field, and a non-magnetic layer for magnetically isolating said pinned layer and said free layer are layered, wherein

in said spin-valve film, each of said anti-ferromagnetic layer, said pinned layer, said free layer and said non-magnetic layer has a corrosion potential relative to a standard hydrogen electrode of +0.4. [V vs. SHE] or greater when immersed in a NaCl solution of a concentration of 0.1 mol/L.

3. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises CuAu, and assuming the composition ratio of Cu:Au is $(100 - a_1):a_1$ (where a_1 represents atomic %), respectively, the composition range thereof is $25 \leq a_1 < 100$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_1:c_1:d_1$ (where b_1, c_1 and d_1 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_1 \leq 75$, $15 \leq c_1 \leq 95$ and $5 \leq d_1 \leq 40$ (where $b_1 + c_1 + d_1 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

4. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises CuAu, and assuming the composition ratio of Cu:Au is $(100 - a_1):a_1$ (where a_1 represents atomic %), respectively, the composition range thereof is $25 \leq a_1 < 100$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_1:c_1:d_1$ (where b_1, c_1 and d_1 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_1 \leq 75$, $15 \leq c_1 \leq 95$ and $5 \leq d_1 \leq 40$ (where $b_1 + c_1 + d_1 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

5. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises Au,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_2:c_2:d_2$ (where b_2, c_2 and d_2 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_2 \leq 75$, $15 \leq c_2 \leq 95$ and $5 \leq d_2 \leq 40$ (where $b_2 + c_2 + d_2 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

6. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises Au,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is b_2:c_2:d_2 (where b_2, c_2 and d_2 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_2 \leq 75$, $15 \leq c_2 \leq 95$ and $5 \leq d_2 \leq 40$ (where $b_2 + c_2 + d_2 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

7. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises CuPd, and assuming the composition ratio of Cu:Pd is $(100 - a_3)$:a_3 (where a_3 represents atomic %), respectively, the composition range thereof is $5 \leq a_3 \leq 25$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is b_3:c_3:d_3 (where b_3, c_3 and d_3 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_3 \leq 75$, $15 \leq c_3 \leq 95$ and $5 \leq d_3 \leq 40$ (where $b_3 + c_3 + d_3 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

8. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises CuPd, and assuming the composition ratio of Cu:Pd is $(100 - a_3)$:a_3 (where a_3 represents atomic %), respectively, the composition range thereof is $5 \leq a_3 \leq 25$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is b_3:c_3:d_3 (where

b_3, c_3 and d_3 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_3 \leq 75$, $15 \leq c_3 \leq 95$ and $5 \leq d_3 \leq 40$ (where $b_3 + c_3 + d_3 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

9. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises CuPt, and assuming the composition ratio of Cu:Pt is $(100 - a_4):a_4$ (where a_4 represents atomic %), respectively, the composition range thereof is $5 \leq a_4 \leq 20$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_4:c_4:d_4$ (where b_4, c_4 and d_4 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_4 \leq 75$, $15 \leq c_4 \leq 95$ and $5 \leq d_4 \leq 40$ (where $b_4 + c_4 + d_4 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

10. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises CuPt, and assuming the composition ratio of Cu:Pt is $(100 - a_4):a_4$ (where a_4 represents atomic %), respectively, the composition range thereof is $5 \leq a_4 \leq 20$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_4:c_4:d_4$ (where b_4, c_4 and d_4 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_4 \leq 75$, $15 \leq c_4 \leq 95$ and $5 \leq d_4 \leq 40$ (where $b_4 + c_4 + d_4 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

11. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises CuRu, and assuming the composition ratio of Cu:Ru is $(100 - a_5):a_5$ (where a_5 represents atomic %), respectively, the composition range thereof is $3 \leq a_5 \leq 15$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_5:c_5:d_5$ (where b_5, c_5 and d_5 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_5 \leq 75$, $15 \leq c_5 \leq 95$ and $5 \leq d_5 \leq 40$ (where $b_5 + c_5 + d_5 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

12. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises CuRu, and assuming the composition ratio of Cu:Ru is $(100 - a_5):a_5$ (where a_5 represents atomic %), respectively, the composition range thereof is $3 \leq a_5 \leq 15$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_5:c_5:d_5$ (where b_5, c_5 and d_5 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_5 \leq 75$, $15 \leq c_5 \leq 95$ and $5 \leq d_5 \leq 40$ (where $b_5 + c_5 + d_5 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

13. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises CuNi, and assuming the composition ratio of Cu:Ni is $(100 - a_6):a_6$ (where a_6 represents atomic %), respectively, the composition range thereof is $25 \leq a_6 \leq 50$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_6:c_6:d_6$ (where b_6, c_6 and d_6 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_6 \leq 75$, $15 \leq c_6 \leq 95$ and $5 \leq d_6 \leq 40$ (where $b_6 + c_6 + d_6 = 100$

atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

14. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises CuNi, and assuming the composition ratio of Cu:Ni is $(100 - a_6):a_6$ (where a_6 represents atomic %), respectively, the composition range thereof is $25 \leq a_6 \leq 50$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_6:c_6:d_6$ (where b_6, c_6 and d_6 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_6 \leq 75$, $15 \leq c_6 \leq 95$ and $5 \leq d_6 \leq 40$ (where $b_6 + c_6 + d_6 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

15. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises CuRh, and assuming the composition ratio of Cu:Rh is $(100 - a_7):a_7$ (where a_7 represents atomic %), respectively, the composition range thereof is $7 \leq a_7 \leq 20$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is $b_7:c_7:d_7$ (where b_7, c_7 and d_7 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_7 \leq 75$, $15 \leq c_7 \leq 95$ and $5 \leq d_7 \leq 40$ (where $b_7 + c_7 + d_7 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

16. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises CuRh, and assuming the composition ratio of Cu:Rh is $(100 - a_7):a_7$ (where a_7 represents atomic %),

respectively, the composition range thereof is $7 \leq a_7 \leq 20$,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is b_7:c_7:d_7 (where b_7, c_7 and d_7 represent atomic %), respectively, the composition ranges thereof are $0 \leq b_7 \leq 75$, $15 \leq c_7 \leq 95$ and $5 \leq d_7 \leq 40$ (where $b_7 + c_7 + d_7 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

17. The magnetoresistive head according to Claim 1, wherein

said non-magnetic layer comprises one of Au, CuAu, CuPd, CuPt, CuNi, CuRu and CuRh,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is b_8:c_8:d_8 (where b_8, c_8 and d_8 represent atomic %), respectively, the composition ranges thereof are one of $0 \leq b_8 \leq 35$, $60 \leq c_8 \leq 95$ and $5 \leq d_8 \leq 40$, and $20 \leq b_8 \leq 75$, $15 \leq c_8 \leq 40$ and $5 \leq d_8 \leq 40$ (where $b_8 + c_8 + d_8 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

18. The magnetoresistive head according to Claim 2, wherein

said non-magnetic layer comprises one of Au, CuAu, CuPd, CuPt, CuNi, CuRu and CuRh,

said pinned layer and said free layer comprise one of NiFe and CoNiFe, and assuming the composition ratio of Co:Ni:Fe is b_8:c_8:d_8 (where b_8, c_8 and d_8 represent atomic %), respectively, the composition ranges thereof are one of $0 \leq b_8 \leq 35$, $60 \leq c_8 \leq 95$ and $5 \leq d_8 \leq 40$, and $20 \leq b_8 \leq 75$, $15 \leq c_8 \leq 40$ and $5 \leq d_8 \leq 40$ (where $b_8 + c_8 + d_8 = 100$ atomic %), and

said magnetoresistive head detects magnetic signals while in contact with a tape-formed magnetic recording medium.

19. The magnetoresistive head according to Claim 1, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said magnetic recording medium by a helical scan method.

20. The magnetoresistive head according to Claim 2, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said magnetic recording medium by a helical scan method.

21. The magnetoresistive head according to Claim 3, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

22. The magnetoresistive head according to Claim 4, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

23. The magnetoresistive head according to Claim 5, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

24. The magnetoresistive head according to Claim 6, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

25. The magnetoresistive head according to Claim 7, wherein said

magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

26. The magnetoresistive head according to Claim 8, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

27. The magnetoresistive head according to Claim 9, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

28. The magnetoresistive head according to Claim 10, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

29. The magnetoresistive head according to Claim 11, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

30. The magnetoresistive head according to Claim 12, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

31. The magnetoresistive head according to Claim 13, wherein said magnetic sensor element is mounted on a rotary drum and detects

magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

32. The magnetoresistive head according to Claim 14, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

33. The magnetoresistive head according to Claim 15, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

34. The magnetoresistive head according to Claim 16, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

35. The magnetoresistive head according to Claim 17, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.

36. The magnetoresistive head according to Claim 18, wherein said magnetic sensor element is mounted on a rotary drum and detects magnetic signals while contacting said tape-formed magnetic recording medium by a helical scan method.